MULTIVARIATE ANALYSIS

CHOOSING TEST AND CONCEPTUAL FRAMEWORK

COMMUNITY MEDICINE

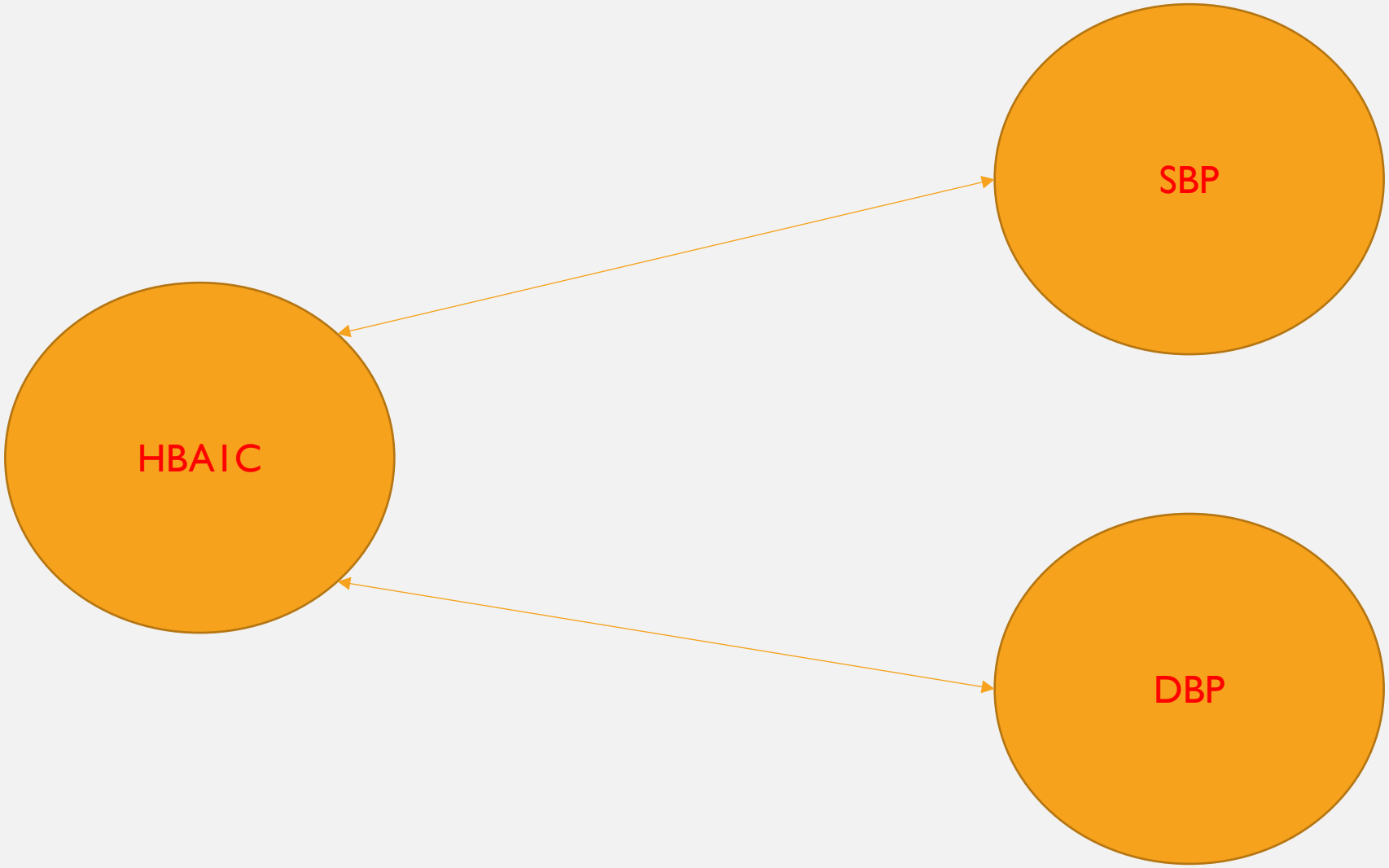
Adil ZA

MBBS, DLSHTM, MSc, MPH, DrPH

IIUM BIOSTATISTIC WORKSHOP USING R

TYPE OF STATISTICAL TEST

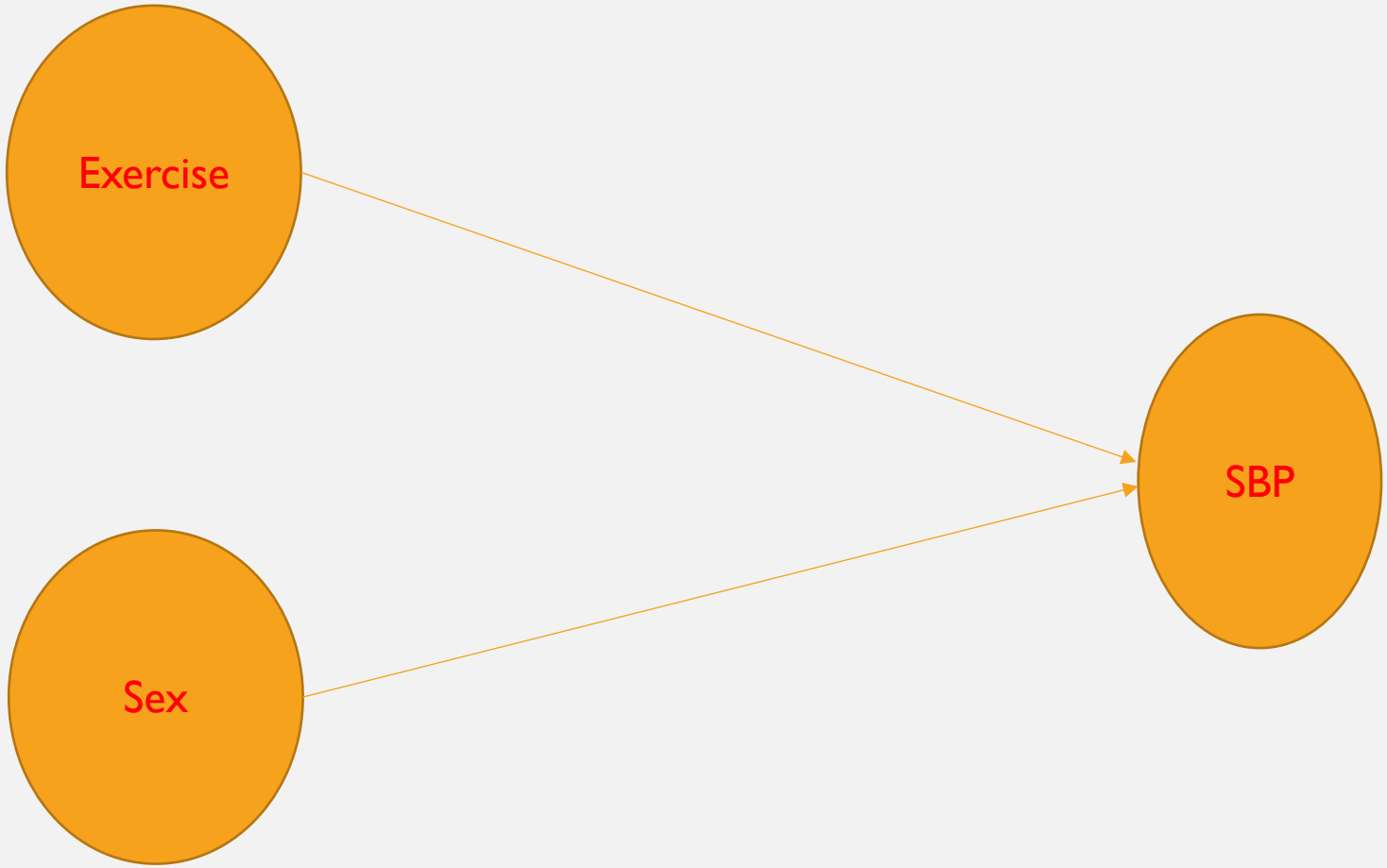
<table>
<tr><th colspan="2" rowspan="3">DV – Dependent/outcome
IV -Independent/explanatory</th><th colspan="4">DV</th></tr>
<tr><th colspan="2">Categorical</th><th colspan="2">Continuous</th></tr>
<tr><th>1 DV
2 Category</th><th>1 DV
>2 Category</th><th>1 DV</th><th>>1 DV</th></tr>
<tr><td rowspan="9">IV</td><td>1 IV, 2 Category
Between subject</td><td colspan="2" rowspan="4">Chi square test</td><td>Independent t test</td><td></td></tr>
<tr><td>1 IV, 2 Category
Within subject</td><td>Paired t test</td><td></td></tr>
<tr><td>1 IV, >2 Category btw subject</td><td>One-way ANOVA</td><td>One-way MANOVA</td></tr>
<tr><td>1 IV, > 2 Category w subject</td><td>RM-ANOVA</td><td>RM-MANOVA</td></tr>
<tr><td>>1 IV, All Categorical</td><td rowspan="4">Binomial logistic regression</td><td rowspan="4">Multinomial logistic regression</td><td>2 Way ANOVA</td><td>2 Way MANOVA</td></tr>
<tr><td>>1 IV, Mixed category and continuous</td><td>ANCOVA</td><td>MANCOVA</td></tr>
<tr><td>1 Continuous variable</td><td>Simple linear regression</td><td rowspan="2">Multivariate linear regression</td></tr>
<tr><td>>1 Continuous variable</td><td>Multiple linear regression</td></tr>
</table>



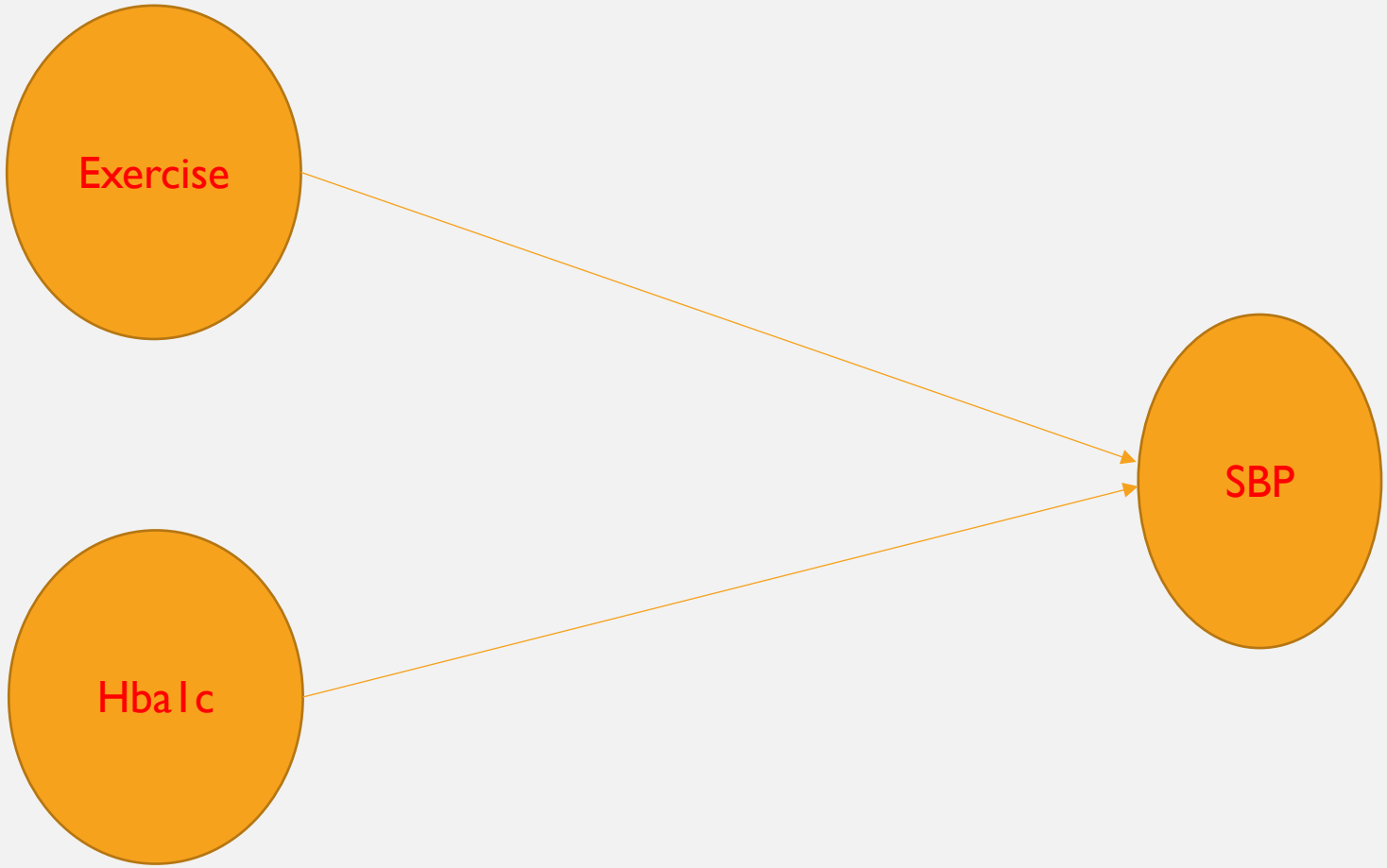
SIMPLE LINEAR REGRESSION

MULTIPLE LINEAR REGRESSION

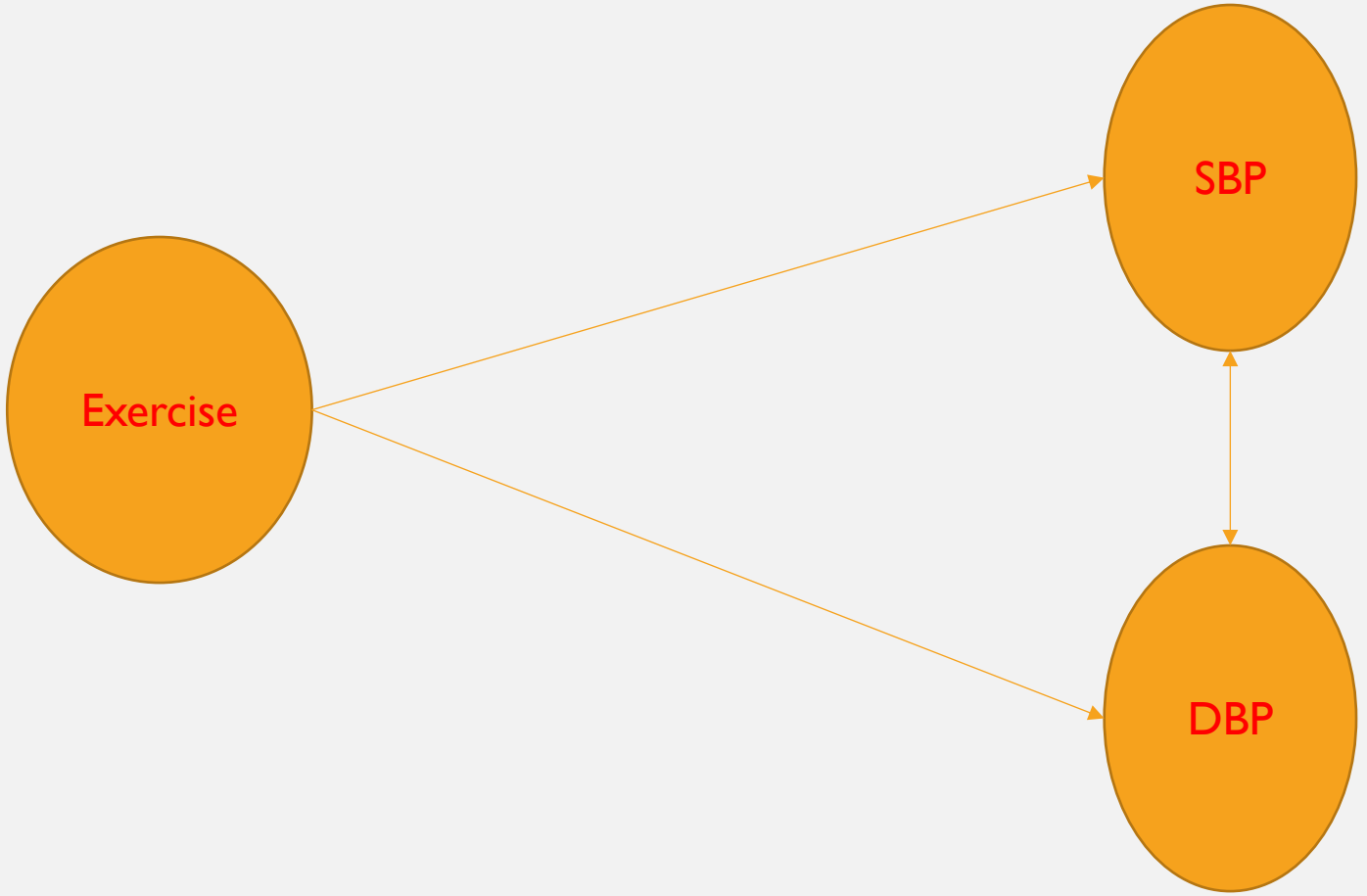
ANOVA



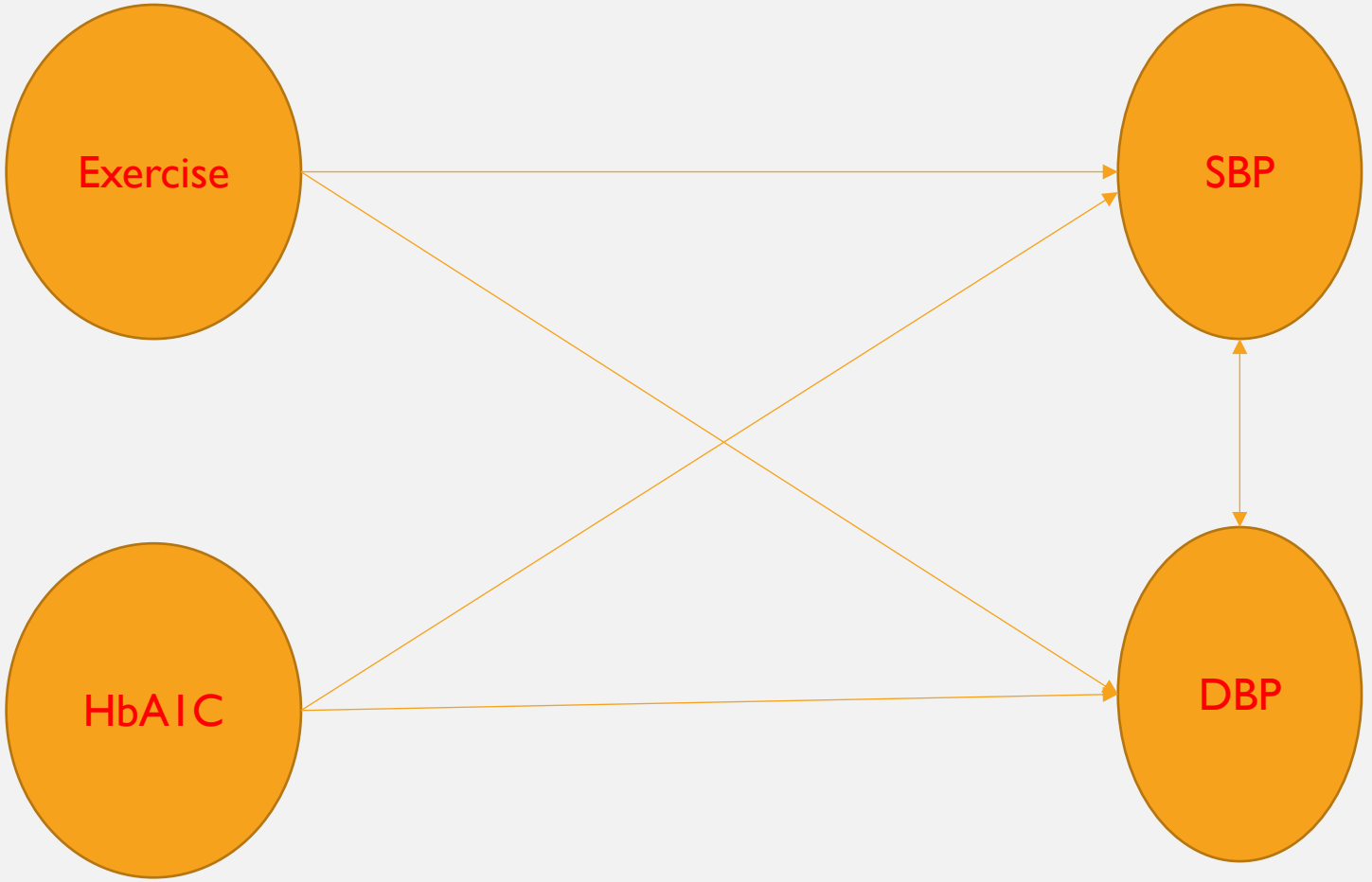
2 WAY ANOVA



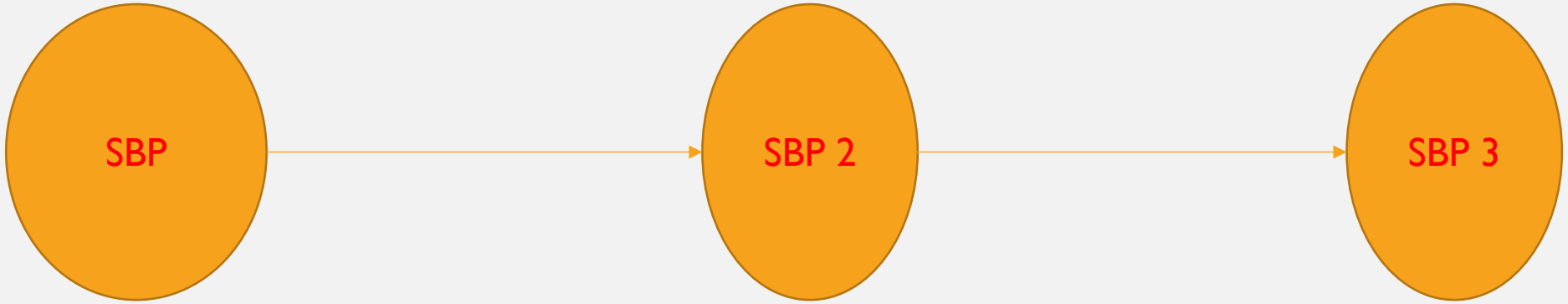
ANCOVA



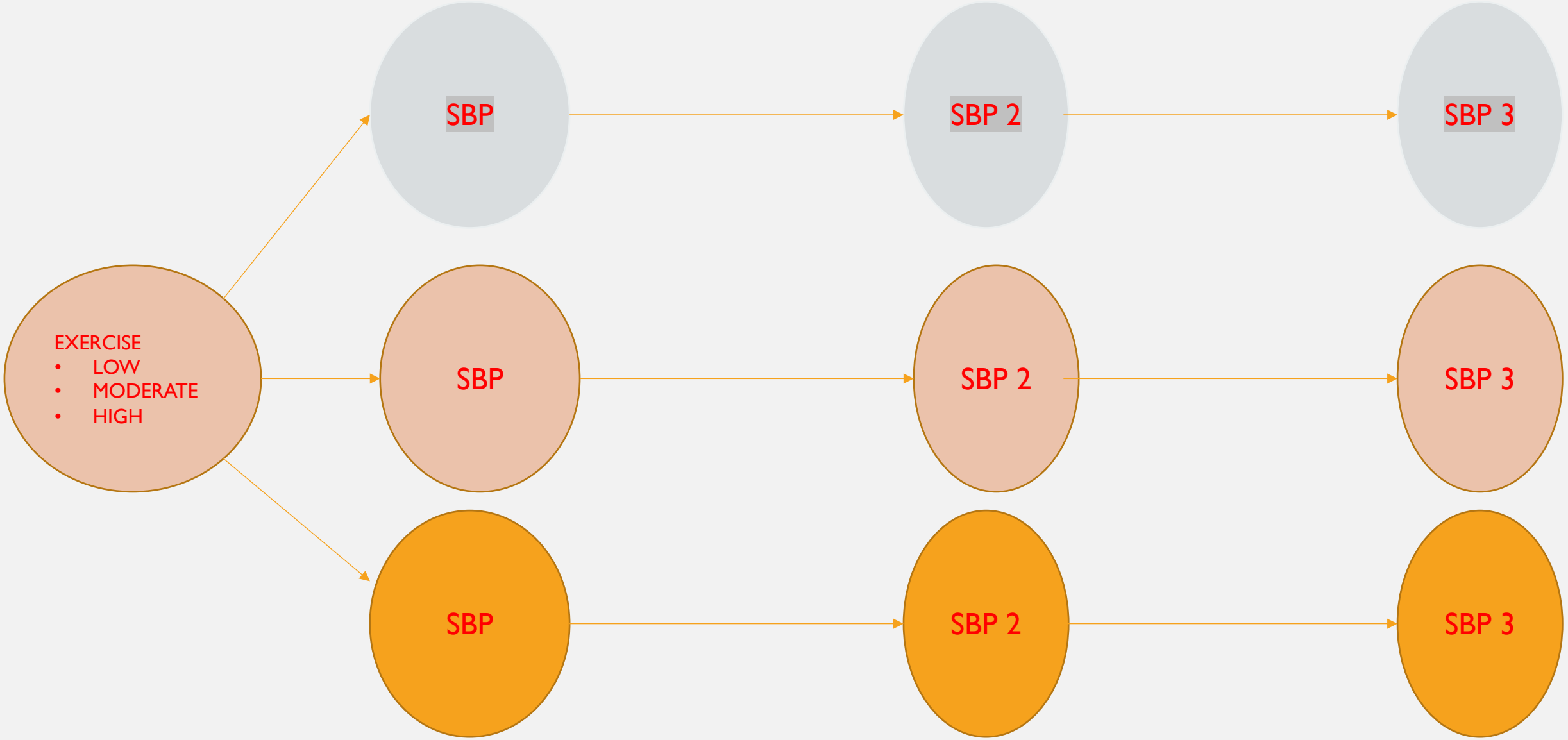
MANOVA



MANCOVA

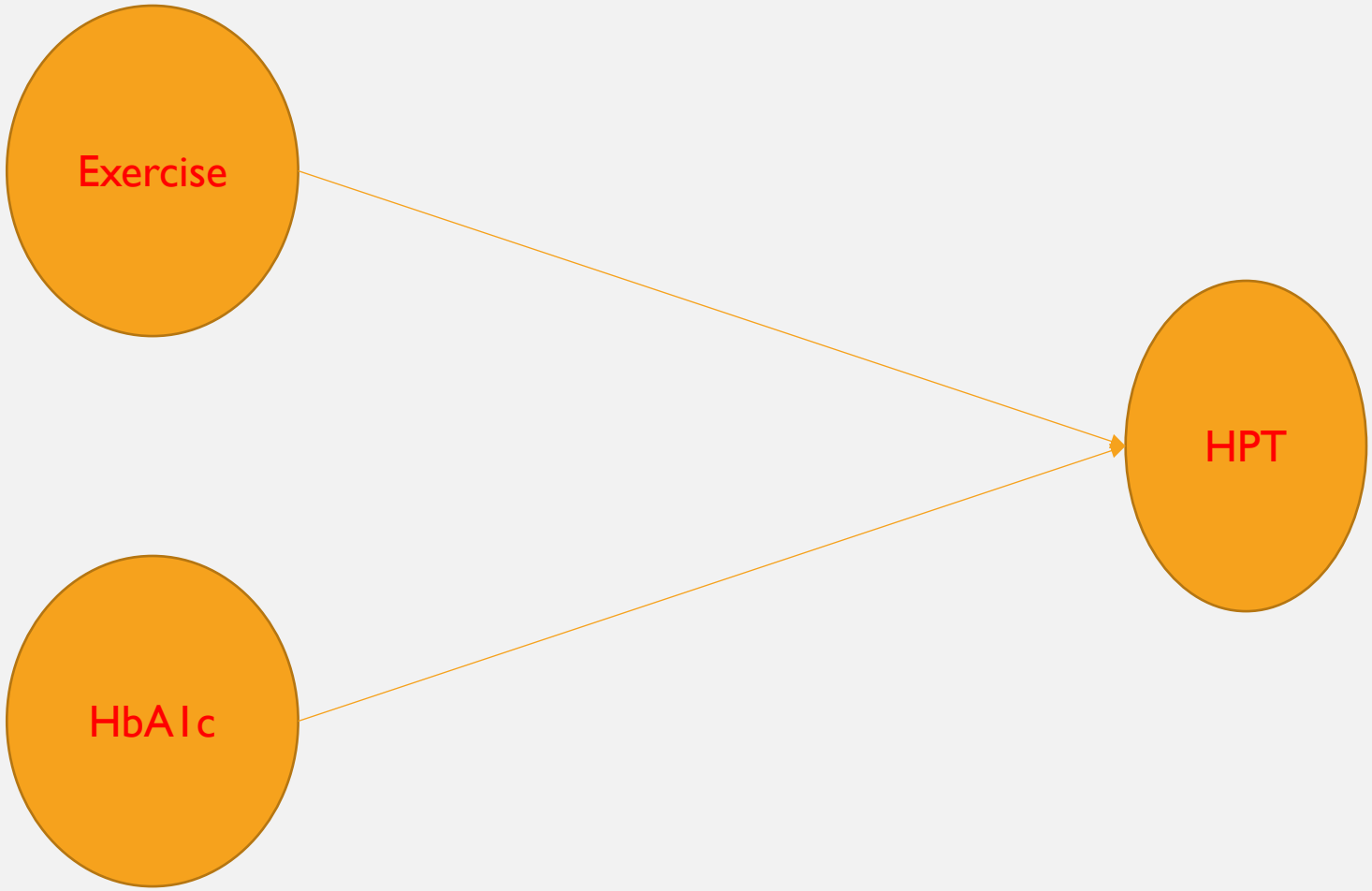


RM-ANOVA



REPEATED MEASURE 2 WAY ANOVA

SIMPLE LOGISTIC REGRESSION



MULTIPLE LOGISTIC REGRESSION

THANK YOU